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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19702A, 6SR5, MISSILE NUMBER BR-7, ROUND NUMBER B-52, 25 OCTOBE--ETC(U)
OCT 79

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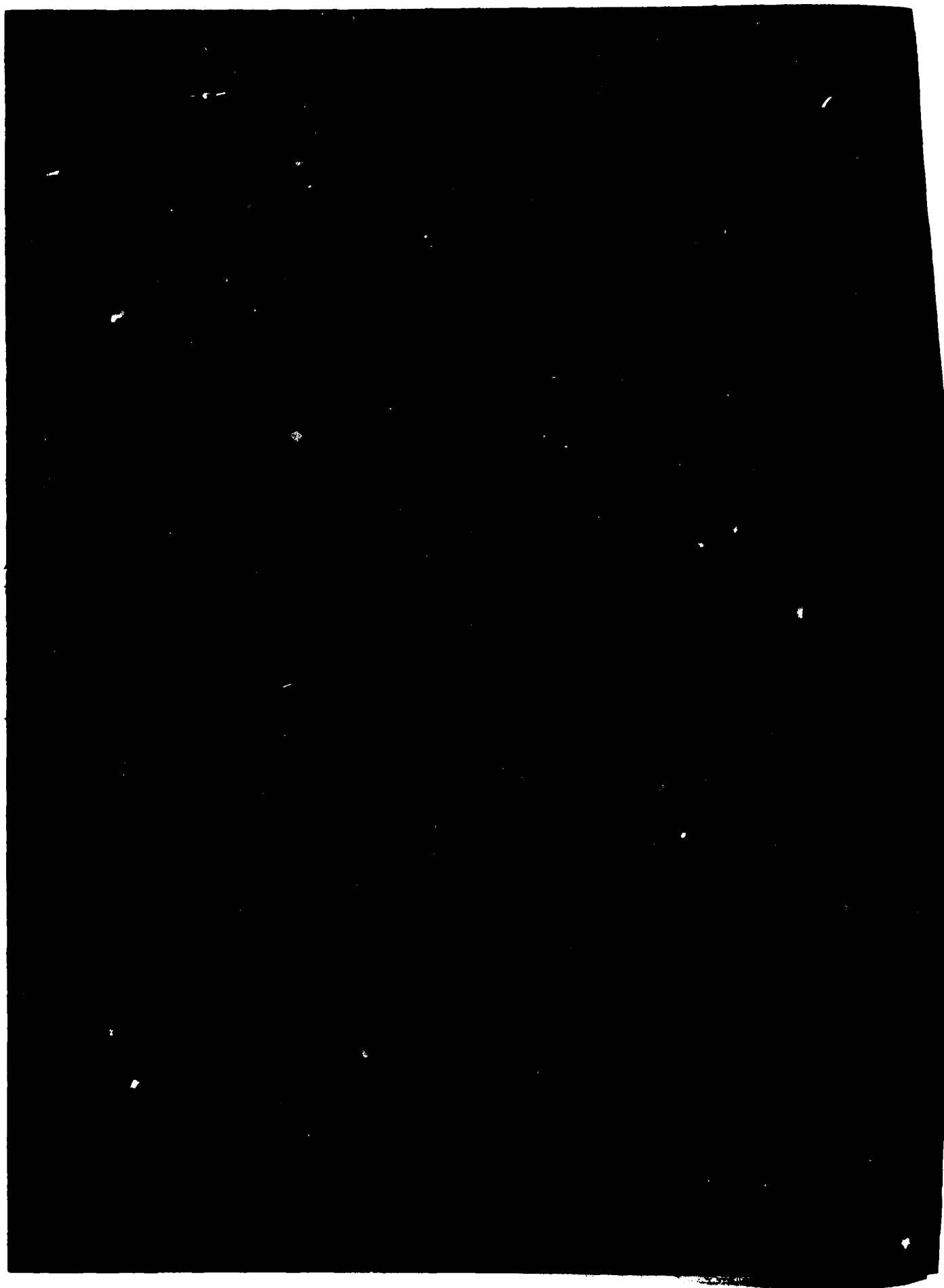
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19702A GSRS, Missile Number BR-7, Round Number B-52 are presented in tabular form.		

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INTRODUCTION

19702A GSRS, Missile Number BR-7, Round Number B-52, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1345 MDT 25 October 1979. The scheduled launch time was 1345 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RPTS T-9 pibal observation at:

SITE AND ALTITUDE

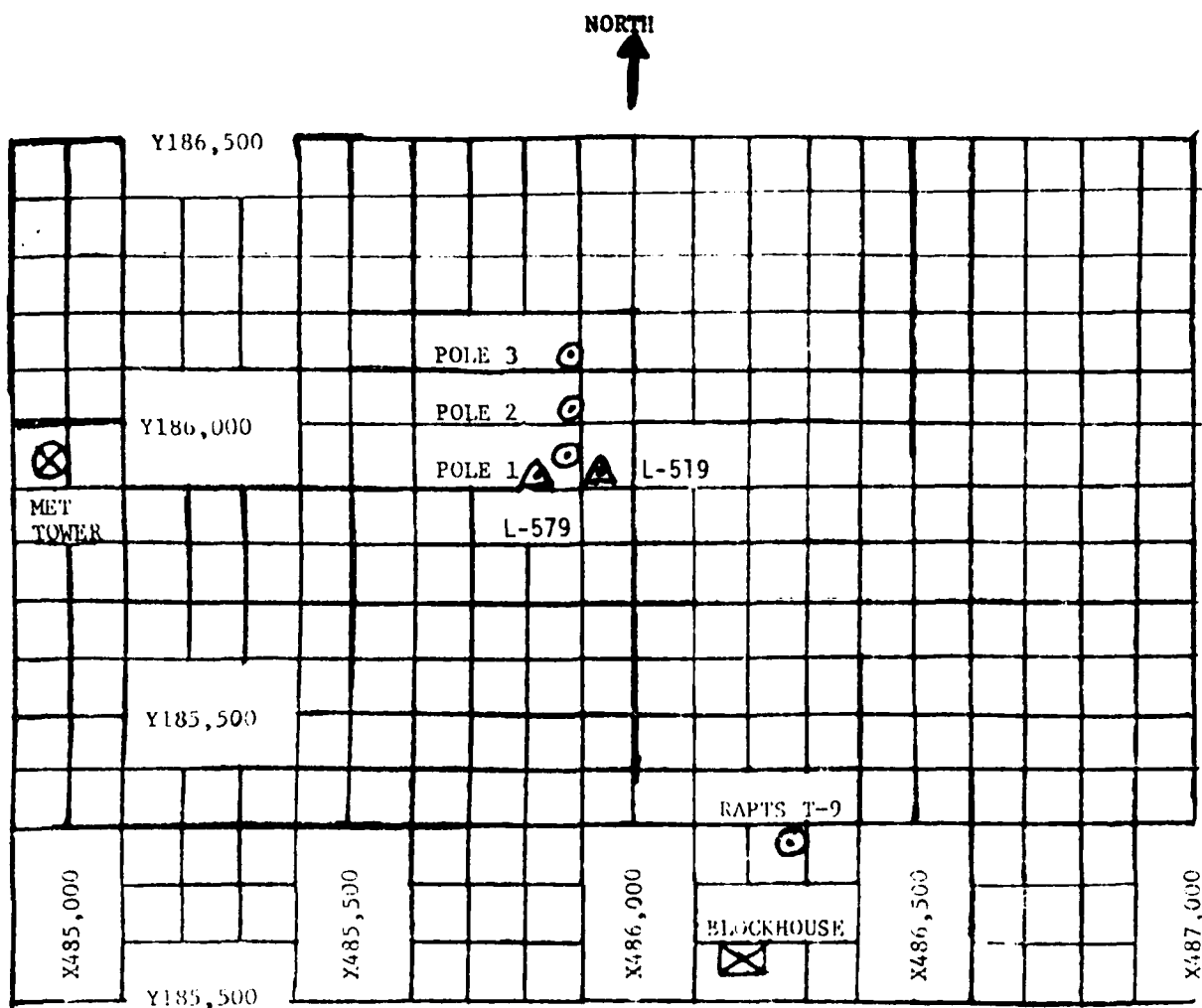
NICK 2Km
LC-33 2Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 34,500 feet in 500-foot increments.

SITE AND TIME

SMR 1300 MST

Accession for	
MTS	✓
DES	✓
Unannounced	
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or special
A	23 CH



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 61 ft, 102 ft, and 167 ft with L/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with L/A recorder.
 - (a) Pole #1 - 38.7 ft
 - (b) Pole #2 - 53.0 ft
 - (c) Pole #3 - 83.6 ft
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System (F-9 Radar).

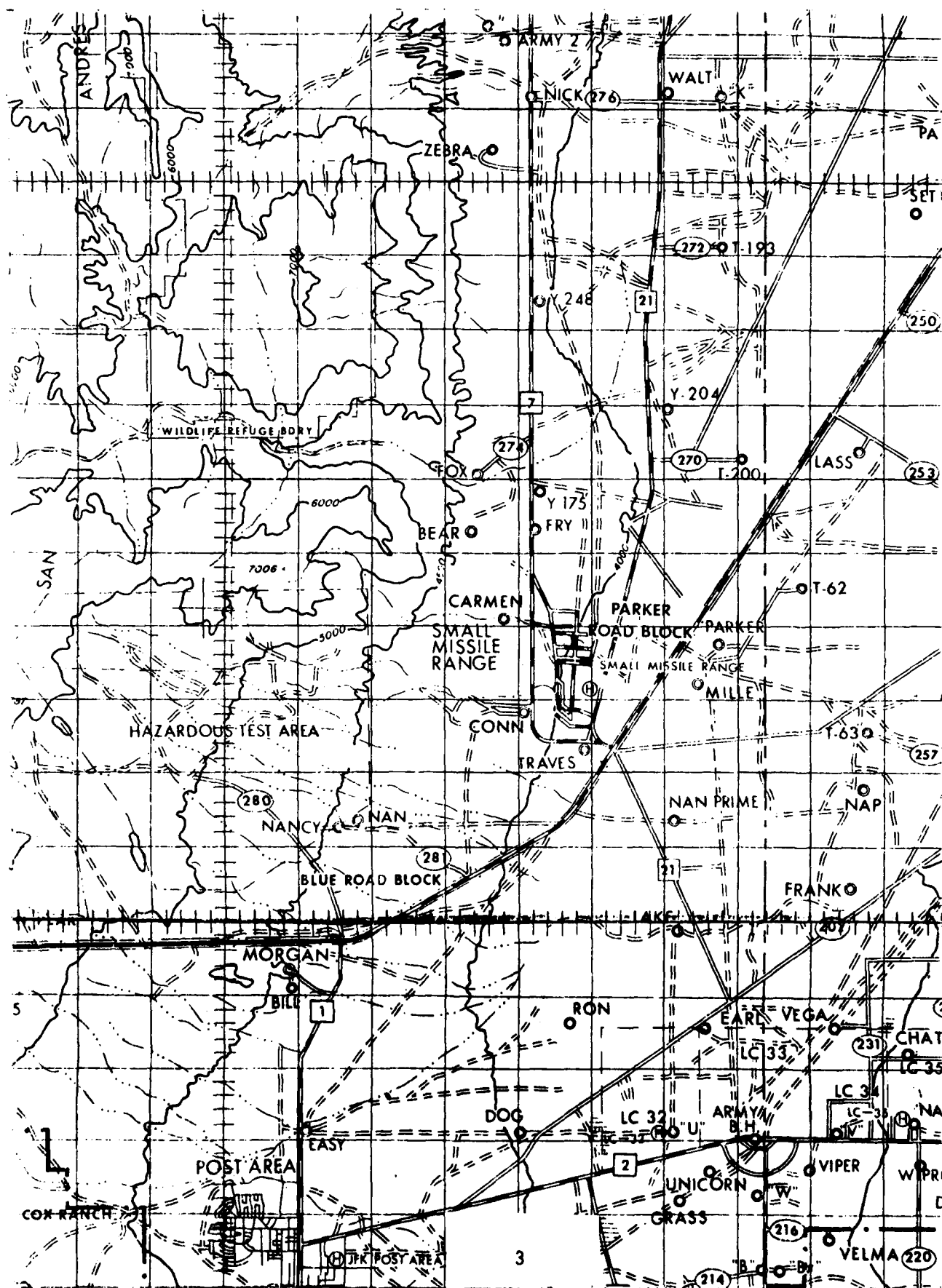


TABLE 1. Surface Observations taken at 1345 MDT,
25 October 1979, at LC-33, 19702A GSRS,
Missile Number BR-7, Round Number B-52.

ELEVATION	3977.30	FT/MSL
PRESSURE	879.6	MBS
TEMPERATURE	25.9	°C
RELATIVE HUMIDITY	22	%
DEW POINT	2.4	°C
DENSITY	1019	GM/M ³
WIND SPEED	02	KTS
WIND DIRECTION	175	DEGREES
CLOUD COVER	CLEAR	

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	MISG	03	-30	156	03	-30	107	02
-20	MISG	03	-20	160	03	-20	143	01
-10	MISG	03	-10	150	03	-10	095	01
0.0	MISG	02	0.0	161	03	0.0	255	01
+10	MISG	03	+10	153	03	+10	174	01

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft AGL

TABLE 2

TYPE 19702A GSRS MISSILE NO. BR-7 ROUND NO. B-52

LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 Feet			LEVEL #2 62 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	225	04	-30	233	04
-20	231	03	-20	233	04
-10	230	03	-10	233	03
0.0	250	03	0.0	230	04
+10	238	04	+10	230	04
LEVEL #3 102 Feet			LEVEL #4 202 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	230	03	-30	204	04
-20	218	03	-20	207	04
-10	230	03	-10	207	03
0.0	235	03	0.0	207	03
+10	235	03	+10	221	03

WTSM COORDINATES: X484,982.64 Y185,057.73 H3983.00 (base)

TABLE 3

TYPE 19702A GSRS MISSILE NO. BR-7 ROUND NO. B-52

LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 25 October 1979 TIME 1335 MDT

TRACKER COORDINATES (WSTM) X= 486,037.24 Y= 182.350.16 H= 3977.30

MISSILE TYPE 19702A GSRS MISSILE NO. BR-7 ROUND NO. B-52

MISSILE LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM
90	174	06
150	174	03
210	173	03
270	165	03
330	170	05
390	193	04
500	189	04
650	216	04
800	222	03
950	238	07
1150	254	08
1350	264	12
1550	247	07
1750	205	06
2000	228	11

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

TRACKER COORDINATES (WSTM) X= 486.037.24 Y= 182.350.16 H= 3977.30

MISSILE TYPE 19702A GSRS MISSILE NO. BR-7 ROUND NO. B-52

MISSILE LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	175	02
90	MISG	MISG
150	137	08
210	140	06
270	184	07
330	172	07
390	187	06
500	198	06
650	190	03
800	218	03
950	253	06
1150	256	10
1350	262	11
1550	249	08
1750	210	06
2000	232	11

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM NICK DATE 25 October 1979 TIME 1345 MDT
 TRACKER COORDINATES (WSTM) X= 470.734.56 Y= 255,775.64 H= 4126.57
 MISSILE TYPE 19702A GSRS MISSILE NO. BR-7 ROUND NO. B-52
 MISSILE LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM
90	MISG	MISG
150	MISG	MISG
210	MISG	MISG
270	095	04
330	075	02
390	101	02
500	134	01
650	189	02
800	250	05
950	257	08
1150	260	09
1350	256	10
1550	239	08
1750	233	05
2000	233	05

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

STATION ALTITUDE 3997.30 FEET MSL
25 OCT. 79 1300 HRS MST
ASCENSION NO. 365

SIGNIFICANT LEVEL DATA
2980060365
S M R

GEODETIC COORDINATES
32.46034 LAT DEG
106.42307 LON DEG

TABLE 7

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
679.1	3997.3	28.2	1.7
865.8	4437.6	24.4	-1.4
550.0	4964.1	22.4	-3.1
760.2	8103.5	14.7	-8.0
700.0	10377.6	11.1	-15.4
645.6	12577.9	7.2	-16.9
566.6	16048.3	-1.7	-19.1
500.0	19272.2	-9.7	-19.0
452.4	21784.9	-15.5	-31.0
400.0	24808.3	-21.2	-39.7
310.6	30773.8	-35.9	-50.7
300.0	31567.9	-36.1	
279.8	33160.9	-36.3	
260.0	34825.3	-39.8	

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LONG DEG

UPPER AIR DATA
2980060305
S M P

TABLE 8

STATION ALTITUDE 3997.30 FEET MSL
25 OCT. 79 1300 HRS MST
ASCENDING NO. 305

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION IN DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
397.3	879.1	28.2	18.0	1013.2	677.3	170.0	6.0	1.000255
400.0	879.0	28.2	18.0	1013.2	677.3	170.0	6.0	1.000254
450.0	863.9	24.2	18.0	1009.9	672.5	181.6	4.7	1.000248
500.0	848.9	22.3	18.0	998.8	670.4	200.1	3.8	1.000244
550.0	834.0	21.1	18.3	989.3	669.0	226.2	3.4	1.000240
600.0	819.3	19.9	18.7	972.1	667.5	254.0	4.9	1.000236
650.0	804.8	18.6	19.0	959.0	666.1	266.7	7.7	1.000232
700.0	790.6	17.4	19.3	940.2	664.7	269.4	9.9	1.000228
750.0	776.7	16.2	19.6	933.5	663.2	270.4	12.0	1.000224
800.0	763.0	15.0	19.9	921.1	661.8	264.9	10.9	1.000221
850.0	749.3	14.1	19.0	907.5	660.7	250.4	9.5	1.000216
900.0	735.9	13.3	17.6	893.8	659.8	242.2	9.0	1.000212
950.0	722.6	12.5	16.3	880.3	658.8	227.2	9.2	1.000207
1000.0	709.7	11.7	15.0	866.9	657.9	249.3	9.7	1.000203
1050.0	696.9	10.9	14.1	853.8	656.9	232.1	10.2	1.000199
1100.0	684.2	10.0	14.6	840.9	655.9	236.4	9.7	1.000196
1150.0	671.7	9.1	15.0	828.2	654.8	244.8	9.3	1.000193
1200.0	659.5	8.2	15.5	815.7	653.8	246.8	8.0	1.000190
1250.0	647.5	7.3	16.8	803.4	652.8	250.0	6.4	1.000187
1300.0	635.4	6.1	17.1	791.9	651.3	260.2	3.5	1.000184
1350.0	623.6	4.8	17.2	780.7	649.9	301.5	1.8	1.000182
1400.0	612.0	3.6	17.4	759.7	648.3	330.6	2.7	1.000179
1450.0	600.6	2.3	17.8	758.9	646.8	336.7	4.0	1.000177
1500.0	589.4	1.0	22.3	748.3	645.3	331.7	5.8	1.000174
1550.0	578.4	-0.3	23.6	737.8	643.8	328.9	7.6	1.000172
1600.0	567.6	-1.6	24.9	727.5	642.3	329.0	9.2	1.000169
1650.0	556.9	-2.8	27.7	716.8	640.8	325.3	10.4	1.000167
1700.0	546.1	-4.1	30.6	706.3	639.4	315.1	11.1	1.000165
1750.0	535.6	-5.3	33.6	695.9	637.9	304.6	11.7	1.000162
1800.0	525.3	-6.5	36.5	685.7	636.4	292.1	11.9	1.000160
1850.0	515.2	-7.8	39.4	675.7	634.9	261.4	12.8	1.000158
1900.0	505.3	-9.0	42.4	665.8	633.4	273.6	14.0	1.000155
1950.0	495.5	-10.2	42.3	655.9	632.0	271.2	15.4	1.000153
2000.0	485.7	-11.4	38.5	645.9	630.6	272.6	16.6	1.000149
2050.0	476.1	-12.5	34.7	636.1	629.1	273.9	17.3	1.000146
2100.0	466.8	-13.7	30.9	626.4	627.7	275.0	17.8	1.000143
2150.0	457.6	-14.8	27.2	616.8	626.3	274.0	19.2	1.000140
2200.0	448.5	-15.9	24.4	607.1	625.0	272.3	21.0	1.000138
2250.0	439.4	-16.8	23.1	597.1	623.8	271.2	22.8	1.000135
2300.0	430.6	-17.8	21.8	587.2	622.6	270.4	24.5	1.000133

STATION ALTITUDE 3997.30 FEET MSL
25 OCT. 79 1300 HRS MST
ASCENSION NO. 365

UPPER AIR DATA
2960060365
S M R

GEODETIC COORDINATES
32.46034 LAT UEG
106.42307 LONG UEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) DEGREES (IN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	421.9	-18.7	20.5	577.5	621.5	270.3	24.7	1.000130
24000.0	413.4	-19.7	19.1	566.0	620.3	270.5	24.0	1.000128
24500.0	405.1	-20.6	17.8	556.7	619.1	273.4	22.4	1.000126
25000.0	396.8	-21.7	17.1	549.5	617.8	278.9	20.3	1.000124
25500.0	388.4	-22.9	17.3	540.7	616.3	284.4	19.9	1.000121
26000.0	380.3	-24.1	17.6	531.9	614.8	289.2	20.4	1.000119
26500.0	372.3	-25.4	17.9	523.4	613.3	289.3	22.1	1.000117
27000.0	364.5	-26.6	18.1	515.0	611.8	288.1	24.1	1.000115
27500.0	356.9	-27.8	18.4	506.7	610.2	285.5	25.9	1.000114
28000.0	349.4	-29.1	18.6	498.6	608.7	282.5	27.6	1.000112
28500.0	342.0	-30.3	18.9	490.6	607.1	279.0	29.2	1.000110
29000.0	334.9	-31.5	19.1	482.8	605.6	275.3	30.7	1.000108
29500.0	327.8	-32.8	19.4	475.1	604.0	272.2	33.2	1.000106
30000.0	321.0	-34.0	19.6	467.5	602.5	269.3	35.9	1.000105
30500.0	314.2	-35.2	19.9	460.1	600.9	268.1	34.3	1.000103
31000.0	307.5	-36.0	14.3**	451.7	600.0	267.1	32.1	1.000101
31500.0	300.9	-36.1	1.7**	442.2	599.8	267.7	24.9	1.000099
32000.0	294.4	-36.2		432.7	599.7	269.5	16.9	1.000096
32500.0	288.0	-36.2		423.5	599.7	269.2	11.9	1.000094
33000.0	281.8	-36.3		414.4	599.6		7.3	1.000092
33500.0	275.6	-37.0		406.7	598.7			1.000091
34000.0	269.6	-38.1		399.6	597.3			1.000089
34500.0	263.8	-39.1		392.6	596.0			1.000087

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
25 OCT. 79
ASCENSION NO. 365

MANDATORY LLVELS
2980060365
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LONG DEG

TABLE 9

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUMIDITY PERCENT	WIND DATA	
					DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4961.	22.4	-3.1	18.	198.4	3.8
800.0	6674.	18.2	-5.7	19.	268.6	8.6
750.0	8470.	14.1	-9.1	19.	256.9	9.6
700.0	10367.	11.1	-15.4	14.	231.4	10.0
650.0	12381.	7.5	-16.6	16.	248.8	7.0
600.0	14522.	2.2	-17.8	21.	338.0	4.1
550.0	16802.	-3.6	-18.6	30.	318.7	10.8
500.0	19245.	-9.7	-19.6	44.	270.4	14.8
450.0	21683.	-15.7	-31.3	25.	272.6	20.7
400.0	24767.	-21.2	-39.7	17.	276.5	21.1
350.0	27950.	-29.0	-45.4	19.	282.6	27.6
300.0	31505.	-36.1			267.8	24.1

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.